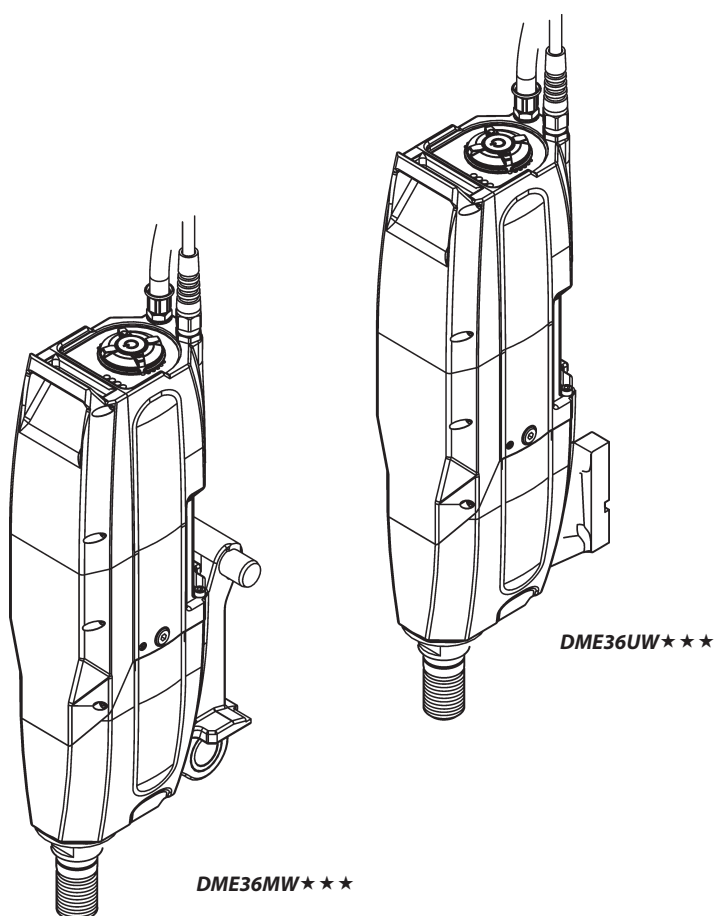


# ***Operating Instructions***

---

***DME36MW★★★ / DME36UW★★★***

*Index 000*



## **Congratulations!**

With a Hydrostress unit from TYROLIT, you have chosen a tried and tested piece of equipment which has been designed and built to leading technical standards. Only genuine TYROLIT Hydrostress replacement parts can guarantee quality and interchangeability. If maintenance work is neglected or carried out inexpertly we will be unable to honour our warranty obligations. Any repair work must be carried out by trained personnel only.

Our after sales service is available to help ensure that your TYROLIT Hydrostress units remain in perfect working order.

We hope that working with your TYROLIT unit will be a satisfying and fault-free experience.

TYROLIT Hydrostress

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## Table of contents

	Page
1. Concerning these instructions .....	4
2. Safety .....	5
3. Product description .....	8
4. Design and Function.....	12
5. Assembly / Disassembly .....	15
6. Operation .....	17
7. Servicing and Maintenance .....	20
8. EU Declaration of Conformity .....	21

## 1. Concerning these instructions



These instructions are just one part of the documentation which is supplied together with the electric tool.

These instructions go together with the «Core Drills Safety Manual / System Description» to form a complete set of documentation.

These instructions, together with the «Core Drill Safety Manual / System Description», are a constituent of the equipment. They describe how to use the equipment safely and properly in all phases of operation.

- Read the instructions carefully before use, particularly the safety instructions.
- Keep the instructions for the entire service life of the equipment.
- Ensure that the instructions are available to the operator and the service engineers at all times.
- Pass the instructions on to all subsequent owners or users of the equipment.
- Update instructions with all supplements received from the manufacturer.

### 1.1 Symbols in these instructions



#### **DANGER**

Warning of danger, where failure to comply could lead to death or serious injury.



#### **WARNING**

Warning of danger, where failure to comply could lead to injuries or damage to property.



#### **WARNING**

Warning - dangerous electrical voltage.

Before working in an area identified in this way, the installation or device must be fully disconnected from the power (voltage) and secured against being accidentally powered up again.



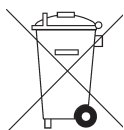
#### **INFORMATION**

Information for optimum use of equipment. Failure to take note of this information may mean that the performance information shown in the technical data can no longer be guaranteed.



#### **RECYCLING**

Take waste for recycling.



#### **DISPOSAL**

The normal national and regional rules and guidelines must be observed during disposal.

2. Safety



Core drilling systems may only be operated by authorised persons. Information about authorised persons can be found in the «Core Drills Safety Manual / System Description».

2.1 Protective devices and signs on the equipment

Protective devices

Protective devices may only be removed if the equipment has been switched off, disconnected from the mains and is at a standstill. Safety components in particular should only be removed and refitted by authorised personnel.  
Before switching the equipment back on again, check that the safety elements are operating correctly.

2.1.1 Signs on the equipment

Safety sign



- 1

Wear safety shoes
- 2

Wear gloves
- 3

Wear a breathing mask
- 4

Wear a helmet, goggles and hearing protection
- 5

Read the instructions
- 6

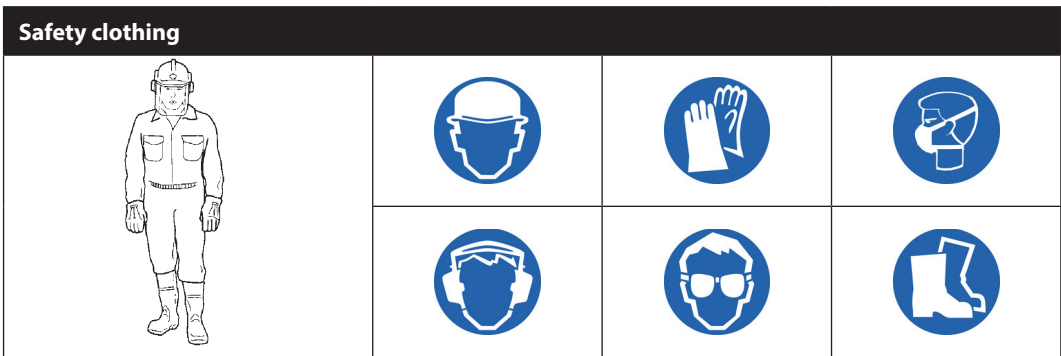
Before working on the equipment, unplug mains

Name plate

TYROLIT		DME36MW★★★			CE	
HYDROSTRESS	3600 W	16A	10992201 / No.			
	50-60 Hz	230 V 1~	Index 000	RPM	190 - 635	
CH-8330 Pfäffikon ZH			IP 66	Ø max.	450 mm	

2.1.2 Safety clothing

Anyone working with and on core drilling systems is strictly required to wear individual protective equipment.



Safety clothing

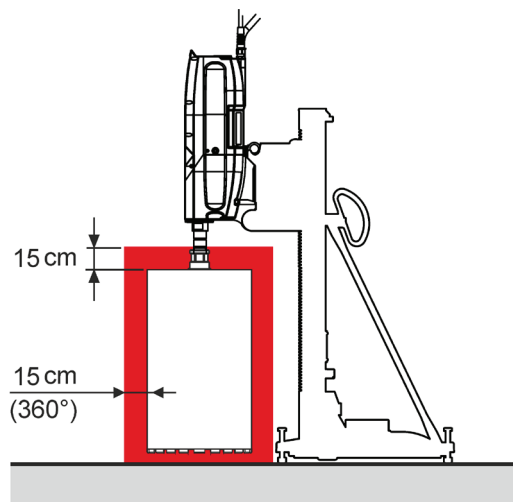
2.2 Spare parts and modifications

Only original spare parts from TYROLIT Hydrostress must be used. Otherwise damage may be caused to the equipment or to other property and persons. No additions or modifications must be made to the equipment without written permission from TYROLIT Hydrostress.

## 2.3 Danger and working area

### 2.3.1 Danger zone at electrical tool

The marked area on the drawing defines the danger zone of the electrical and cutting tool. The minimum clearance of 15 cm must be maintained during operation.



Danger zone at electrical tool

### 2.3.2 Danger zone at workplace



Information about the danger zone at the workplace can be found in the «Core Drills Safety Manual / System Manual».

## 2.4 Residual risks

Risk of serious injuries from the residual risks described in the chapters that follow.

### 2.4.1 Diamond segments flying off

- ▶ Do not start drilling if any other persons are in the danger zone.
- ▶ Ensure that a safety distance is maintained.
- ▶ Replace the diamond drill bit if diamond segments start to break off.

### 2.4.2 Uncontrolled movements and vibration

- ▶ Never connect or disconnect cables during operation.

### 2.4.3 Catching and winding in

Items of clothing or long hair can be caught by the rotating cutting tool.

- ▶ Do not wear loose items of clothing at work.
- ▶ Wear a hair net if you have long hair.

### 2.4.4 Damaging vapours and aerosols

Inhaling damaging vapours and/or aerosols can cause breathing problems. Breathing in the water fog that is created is a health hazard.

- ▶ Wear a breathing mask.
- ▶ Provide adequate ventilation in confined spaces.

### 2.4.5 Physical condition

- ▶ Do not work whilst under the influence of alcohol, drugs or medication.
- ▶ Do not work when you are overtired.

### 2.4.6 Cutting tool quality

- ▶ Do not use damaged cutting tools.
- ▶ Check cutting tool for damage before installation.

### 2.4.7 Risk of cutting tool restart in the event of an accident

- ▶ Ensure that the electrical equipment can be stopped quickly.

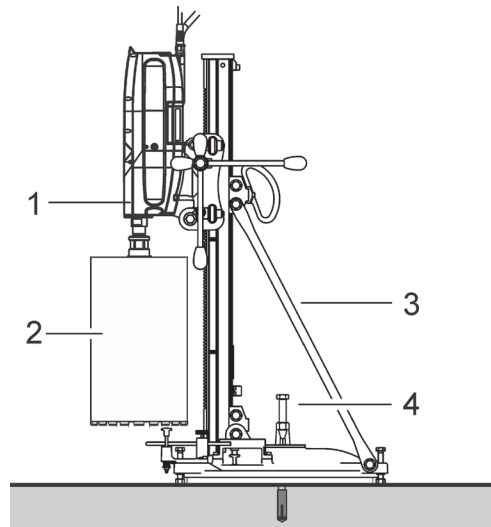


#### **DANGER**

Failure to comply with the safety instructions in the «Safety Manual / System Handbook» may result in serious injury or even death.

- ▶ Please ensure that the «Safety Manual / System Description for Core Drilling» has been read and understood in full.

### 3. Product description



Core drilling system

- |                   |                      |
|-------------------|----------------------|
| 1 Electrical tool | 3 Drill rig          |
| 2 Cutting tool    | 4 Fastening elements |

#### 3.1 Core drilling system

This electrical tool forms a core drilling system in conjunction with suitable TYROLIT Hydrostress components.

#### 3.2 Use for correct purpose

The DME36MW★★★ and DME36UW★★★ electrical tools are intended for stand-controlled wet drilling into mineral subsurfaces using diamond drill bits (no manual operation). During operation a suitable drilling stand must be used and sufficient anchoring to the subsurface provided using dowels, a vacuum plate or a quick clamping support.

Manipulation or modifications to the equipment, the drilling stand or the accessories are not permitted. Always use original TYROLIT Hydrostress accessories and suitable tools during use in order to prevent injuries.

#### 3.3 Scope of supply

- Drill motor
- WAF32 tool wrenches
- Water line adapter
- Easy release element



### 3.4 Technical data and main dimensions

#### 3.4.1 Technical data

Drill motors	DME36MW ★★★	DME36UW ★★★
Nominal voltage	230 V	
Frequency	50 - 60 Hz	
Drill diameter range	50 - 400 mm (450 mm)	
Nominal power	3.6 kW	
Rated current	16 A	
Rotational speeds	190 / 240 / 290 / 350 / 470 / 580 rpm	
Engine cooling	Water	
Tool fitting (external)	1¼" UNC	
Operation	Guided by drill rig	
Application	Wet (dry)*	
Electronic overload protection	Yes	
Mechanical overload protection	Yes	
Power display	Yes	
Service indicator	Yes	
Drill stand holder	ModulIDrill™	Universal plate
Weight	12.5 kg	12 kg

\* Water- Bypass valve

#### Cooling water

Cooling water	
Parameter	Value
Cooling water	min. 2 l/min at max 25 °C
Water connection	2 to 6 bar

#### Noise emissions

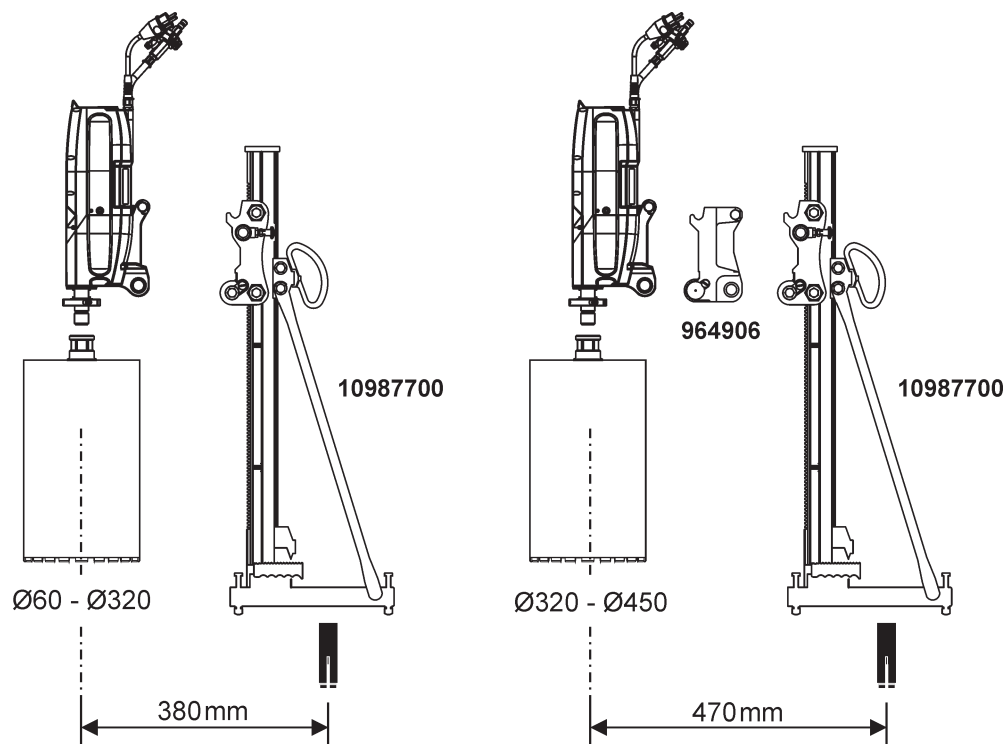
Noise data according to ISO 3744	
Parameter	Value
Sound pressure level $L_{pA}$	75.1 dB (A) *
Maximum sound pressure level $L_{pCpeak}$	106.3 dB (A)
Sound power level $L_{WA}$	95.1 dB (A) *

Conditions for the measurement:

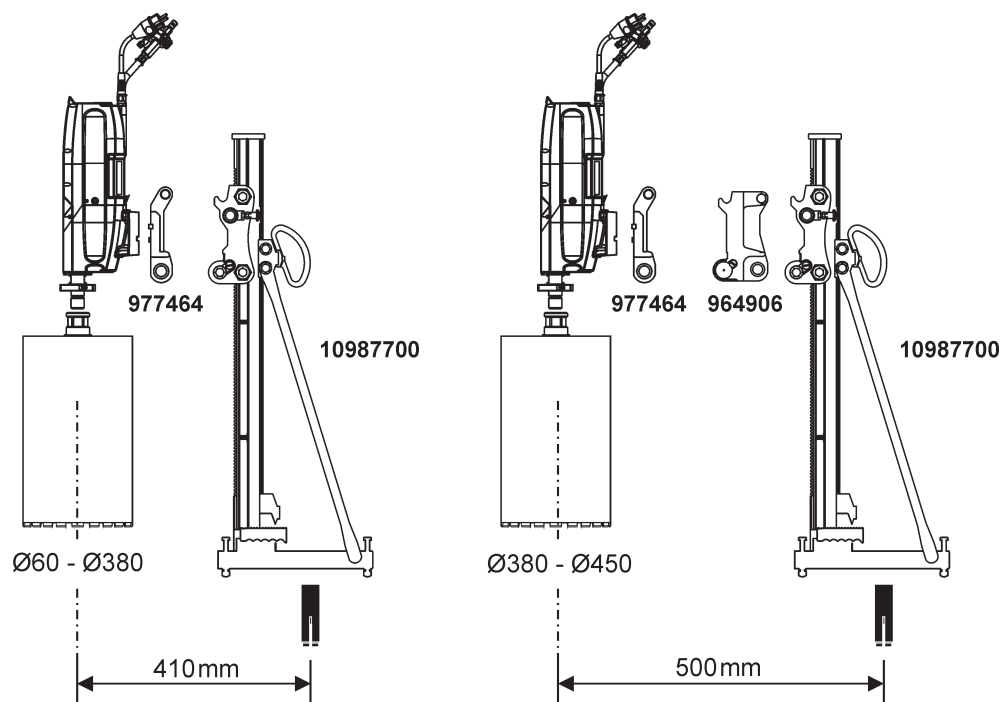
\* Drill bit Ø200 mm not in cutting operation under full load

### 3.4.2 Drilling area

#### Drilling area DME36MWP

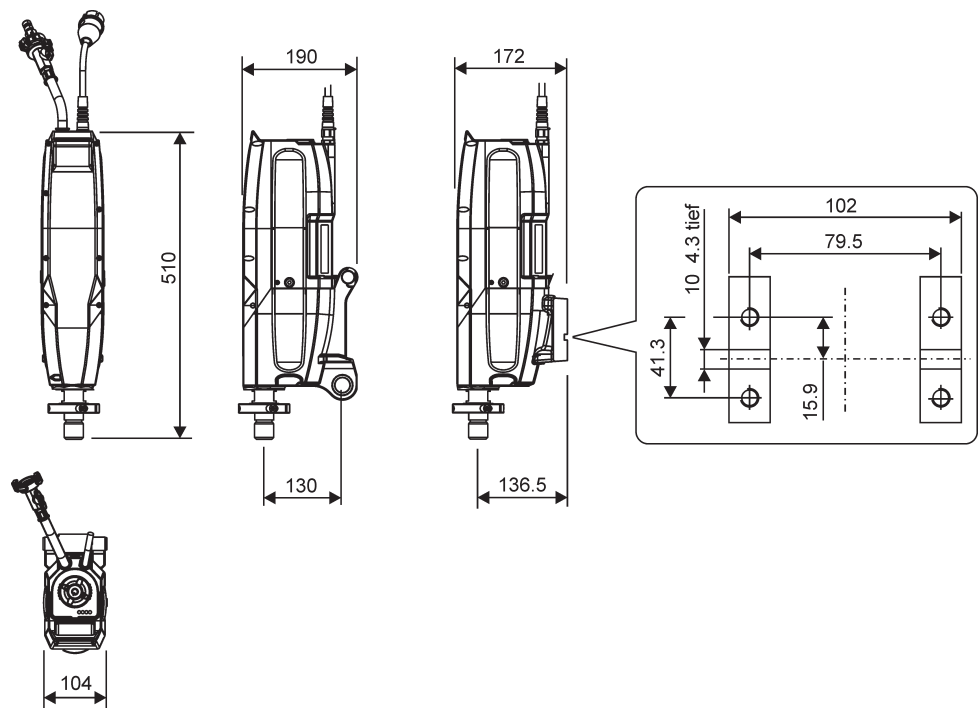


#### Drilling area DME36UWP



Drilling area

3.4.3 Dimensions



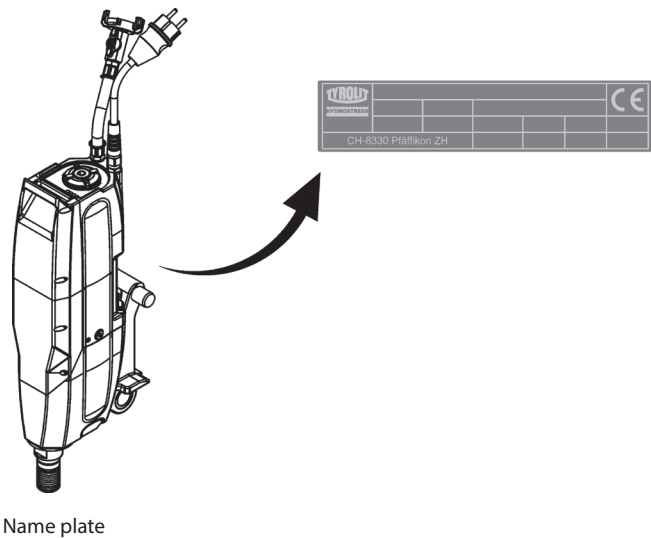
Measurements in mm

3.7 Lubricants, fluids

Lubricants, fluids and sealants	
Parameter	Value
Gear oil	Klüber GEM 4 N (TYROLIT No. 10979557/1000 ml)

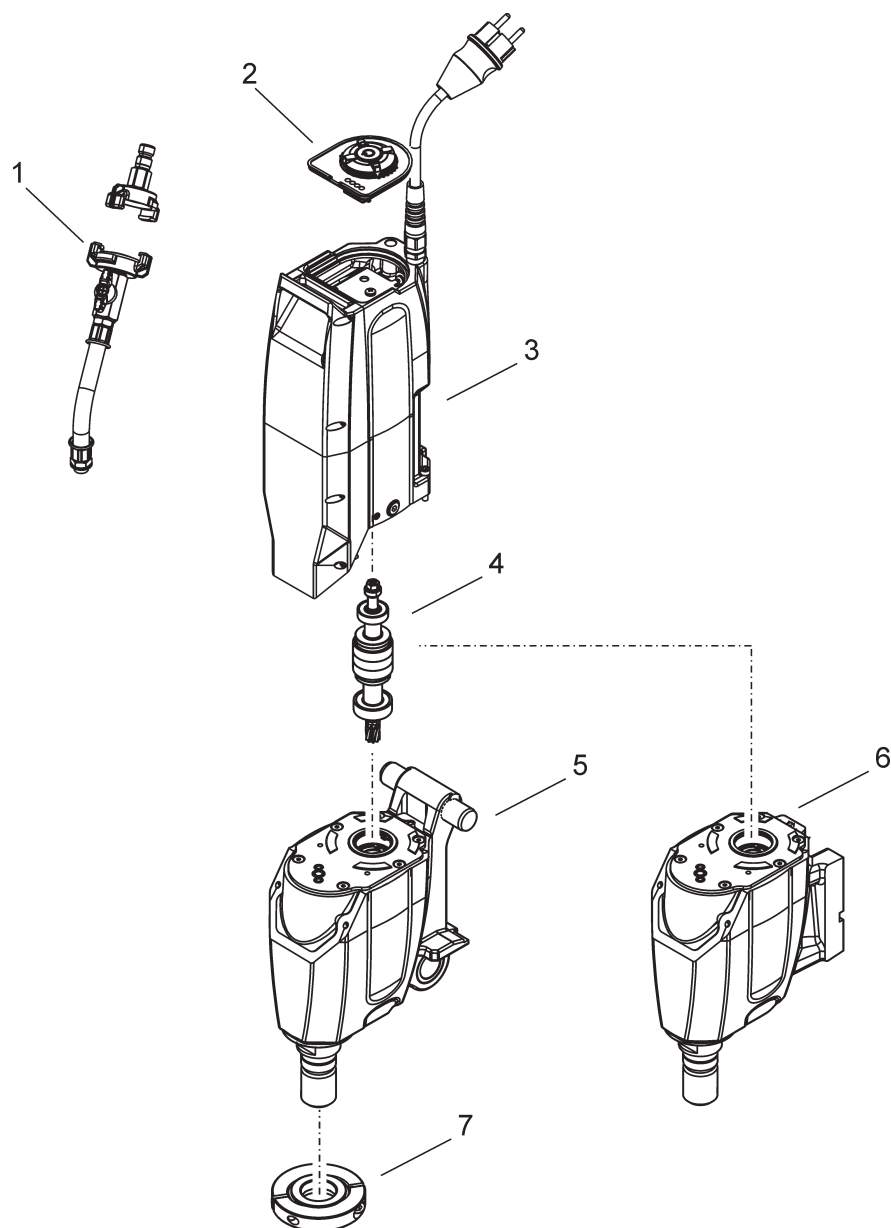
3.8 Name plate

The type designation and serial number are marked on the name plate of your electrical tool.



## 4. Design and function

### 4.1 Design



#### Design

- |                    |                        |
|--------------------|------------------------|
| 1 Water connection | 5 DME36MW gearbox ★★★  |
| 2 Operating unit   | 6 DME36UW gearbox ★★★  |
| 3 Motor            | 7 Easy release element |
| 4 Rotor            |                        |

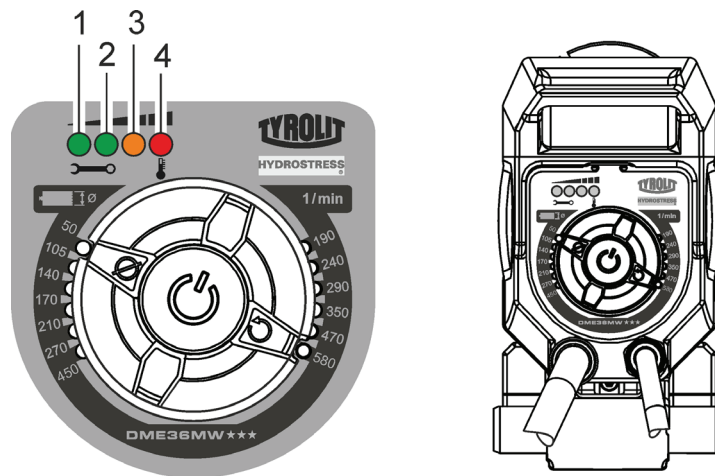
### 4.2 Function

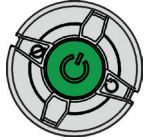



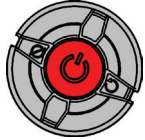


#### 4.2.1 Functional description

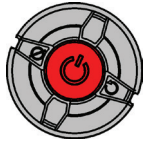




The drilling spindle of the electrical tool is powered by an electric motor via a mechanical gearbox. The optimum speed of the cutting tool is set using a rotary switch. The electric motor is water-cooled.

## 4.3 Displays and controls

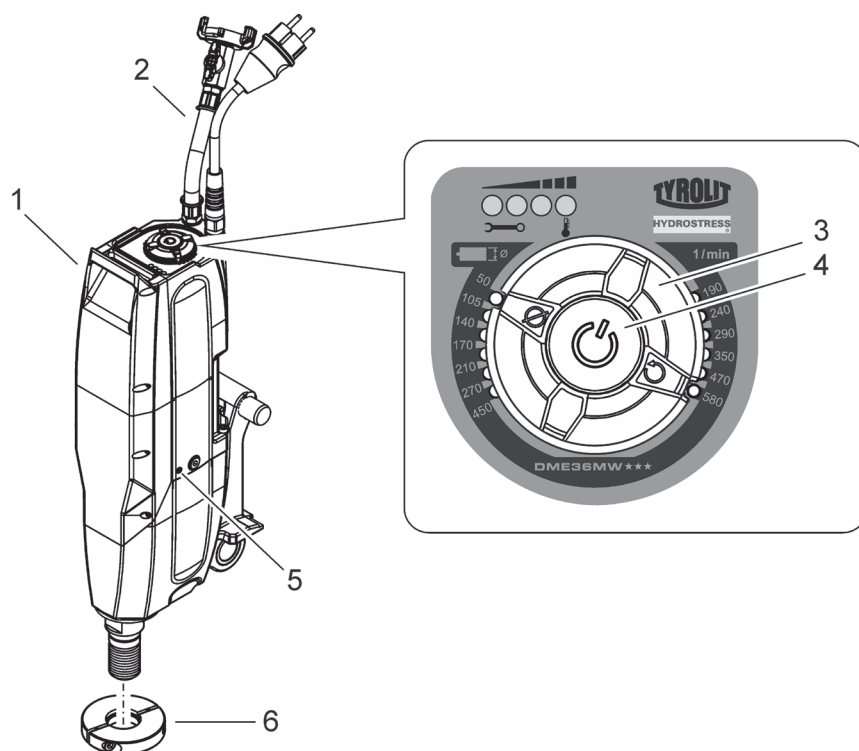
### 4.3.1 Displays



Power display when at standstill			
 Main switch illuminates in green		no signal	no status informations
		LED 1, 2 flashing	Maintenance necessary
		LED 4 flashes	Motor is overheating: Switch off motor and cool down
 Main switch illuminates in red		no signal	see Troubleshooting table 6.4
		LED 4 illuminates	Allow motor to cool down and restart

Power display during operation			
 Main switch illuminates in red		LED 1 illuminates	Operation with less than 40% nominal power
		LED 1, 2 illuminate	Operation with 40% to 80% nominal power
		LED 1,2,3 illuminate	Operation with 80% to 100% nominal power
		LED 1,2,3,4 illuminate	Motor is operated with overload

### 4.3.1 Controls

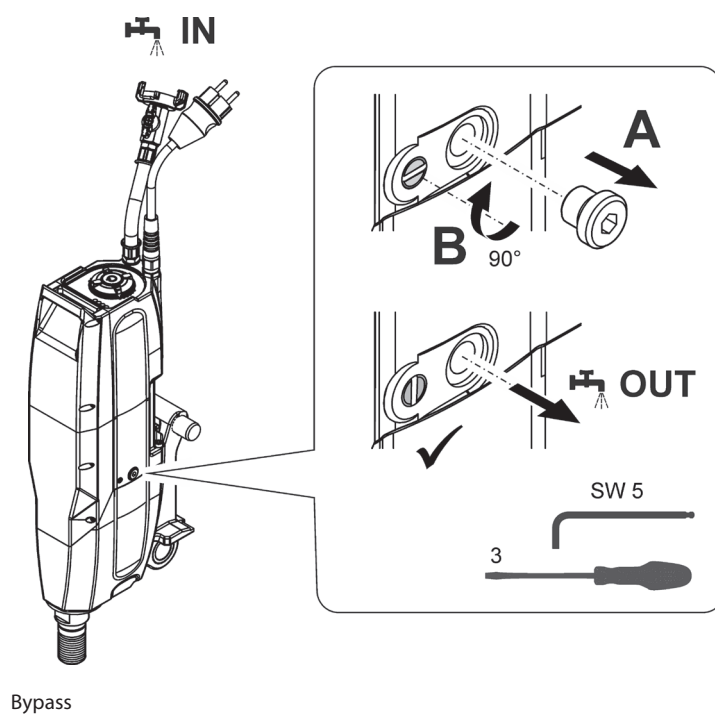


#### Controls

- |                         |                        |
|-------------------------|------------------------|
| 1 Grip                  | 4 Main On / Off switch |
| 2 Water connection      | 5 Bypass valve         |
| 3 Rotary switch / speed | 6 Easy release element |

### Water - Bypass

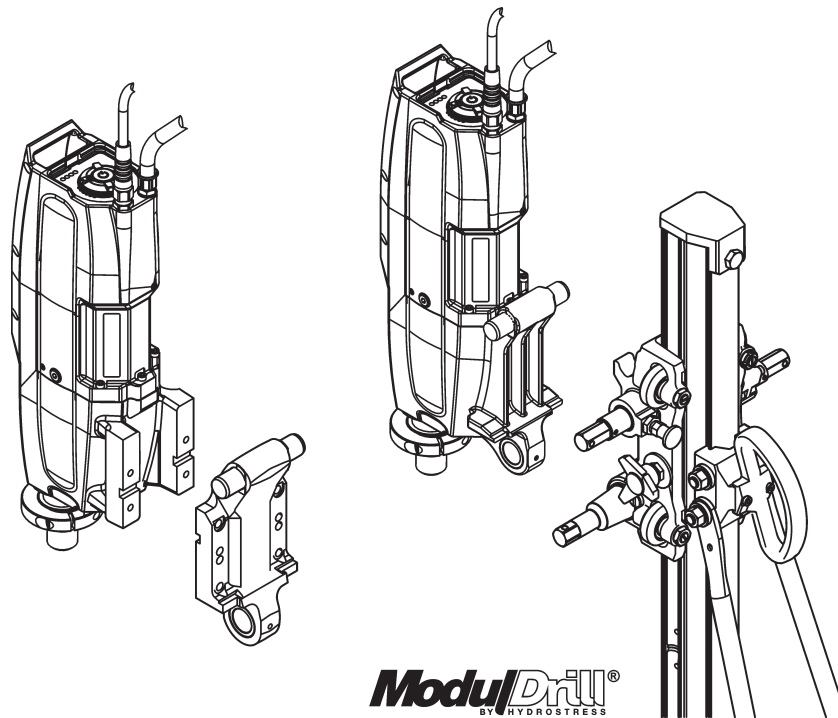
For dry drilling work the cooling water can be led away via a bypass.



Bypass

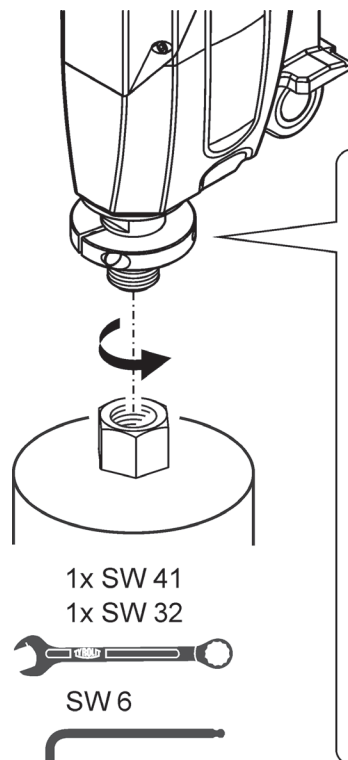
## 5. Assembly / Disassembly

### 5.1 Drilling stand interface

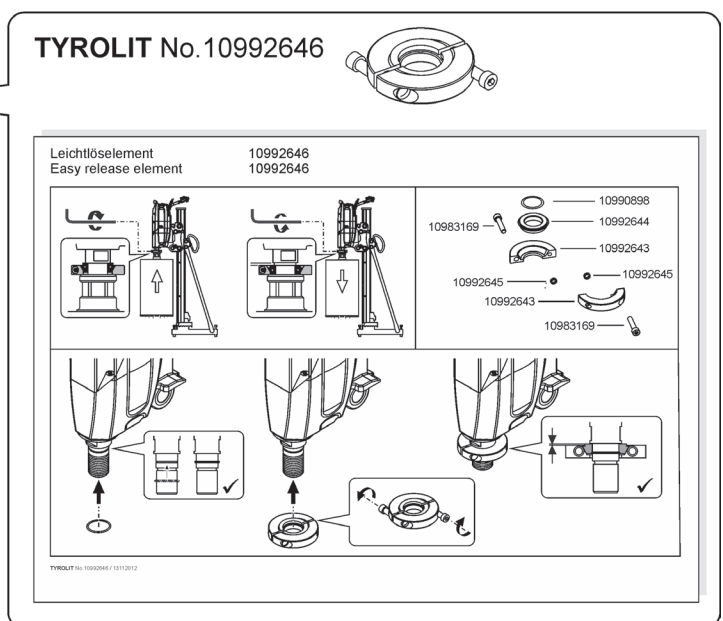


Drilling stand interface

### 5.2 Cutting tool interface



Cutting tool interface



## 5.3 Power supply



### INFORMATION

- The power supply must correspond with the information on the type plate.
- Protect the connecting cables from heat, oil and sharp edges.
- Do not use connecting cables for unsuitable purposes.
- Never carry the electrical tool using the connecting cable.
- Do not use the connecting cable to pull the plug out of the socket.
- In the event of power failure: switch of electrical tool, pull out the plug.

### Extension cable



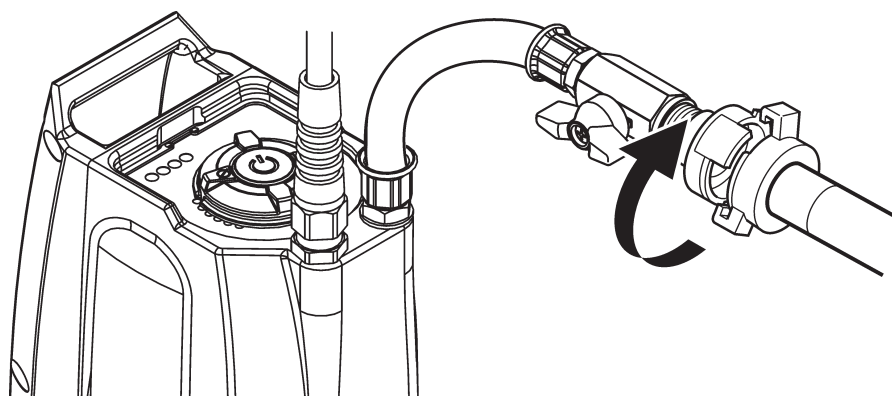
- Only use approved and appropriately marked extension cables outdoors.
- Extension cables with multiple sockets and simultaneous use of multiple devices must be avoided.

Always use an extension cable that is approved for the usage area with a sufficient cross-section.  
Do not use an extension cable with a conductor cross section of 1.25mm<sup>2</sup> and 16 AWG.

#### Recommended minimum cross-sections and maximum cable lengths

Cross section mm <sup>2</sup>	1.5	2.0	2.5	3.5	4.0
220 V-240 V	20 m	-	40 m	50 m	60 m

## 5.4 Water connection



Water connection



## 6. Operation



### DANGER

- Never work without suitable safety equipment
  - Always wear hearing protection
  - Remove adjusting and installation tools before switching the electrical tool on.
  - Never work on ladders.
  - Keep children away from the electrical tool and the working area.
  - Avoid abnormal postures.
  - Ensure that you have firm footing, and keep your balance at all times.
  - Avoid body contact with earthed surfaces such as pipes, heaters, ovens and refrigerators.
- There is an increased risk of electric shock if your body is earthed.

## 6.1 Settings

### 6.1.1 Gears

Position the rotary switch in accordance with the required drilling diameter. Never use force!

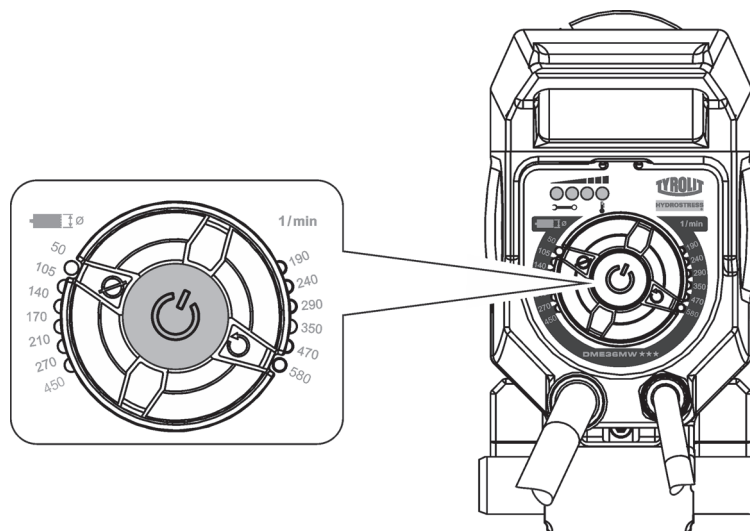
### 6.1.2 Water supply

Ensure that a water supply is provided.

## 6.2 Start / switch on electrical tool

- ✓ The electrical tool is correctly fitted to the drilling stand.
- ✓ The cutting tool is firmly screwed to the electrical tool.
- ✓ The electrical tool is correctly attached to the power supply.
- ✓ The water supply is attached, and the cutting tool is being supplied with water.

► Start motor using the On/Off switch



Start the electric tool

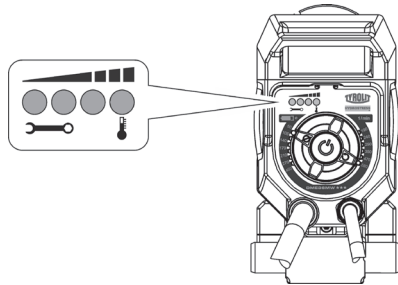
## 6.3 Monitoring, checking

### 6.3.1 At standstill

► Pay attention to the power indicator, see page 12, display elements 4.3.1.

### 6.3.2 During operation

► Pay attention to the power indicator, see page 12, display elements 4.3.1.



Monitoring

## 6.4 Malfunctions

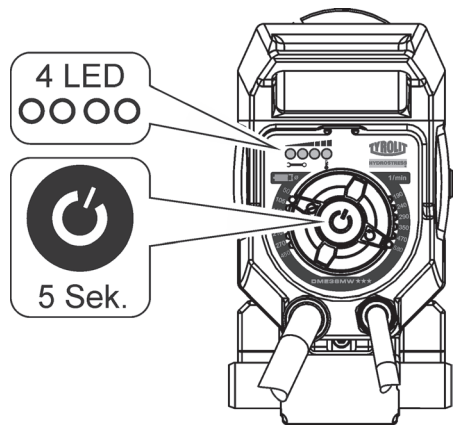
Malfunctions		
Faults	Possible cause	Solution
The electrical tool cannot be started	Mains cable is defective	► Contact TYROLIT Hydrostress AG aftersales
	Faulty power supply	► Check power supply
	Electric motor or electronics faulty	► Contact TYROLIT Hydrostress AG aftersales
	Motor has overheated	► Allow motor to cool down and restart
Motor starts in the reverse direction and switches off again	Drill bit jammed	► Pull drill bit back and restart
Electrical tool starts up and then switches off again	Fuse of building site power supply trips	► Fuse too weak, replace power supply
Motor running but drill bit not rotating	Defective gears	► Contact TYROLIT Hydrostress AG aftersales
Unable to fit cutting tool	Thread dirty	► Clean and grease thread
	Thread defective	► Contact TYROLIT Hydrostress AG aftersales
Water coming out of housing	Shaft sealing ring defective	► Contact TYROLIT Hydrostress AG aftersales
Oil coming out of housing	Shaft sealing ring defective	► Contact TYROLIT Hydrostress AG aftersales
No water emerging	Water valve on feed line is closed	► Open water valve
	Water line is blocked	► Clean the water line
	Defective water valve	► Contact TYROLIT Hydrostress AG aftersales
	Insufficient water pressure	► Check water circuit
	Water - Bypass	► Check valve position

6.4.1 Fault information



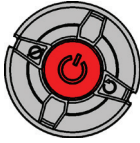









If an automatic shut-off has occurred because of a fault and a restart is not possible, the fault information may help.

- ▶ Press main switch for 5 seconds.
- ▶ Note the status of the coloured LEDs and follow the instructions in table 6.4.2.



Fault information

6.4.2 Fault information table

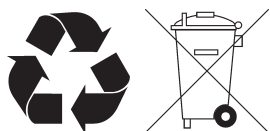
Fault information			
 Main switch illuminates in red		no signal	no fault
		LED 1, 2 illuminate	▶ Notify TYROLIT Hydrostress AG of the status of the coloured LEDs
		LED 3 illuminates	
		LED 1, 3 illuminate	
		LED 2, 3 illuminate	
		LED 1, 4 illuminate	
		LED 2, 3, 4 illuminate	
		LED 1, 2, 3 illuminate	▶ Allow motor to cool down and restart
		LED 4 illuminates	▶ Allow motor to cool down and restart

## 7. Servicing and maintenance

Unplug the equipment before carrying out maintenance or repair work.

Maintenance and servicing table		Before every commissioning	On finishing work	Weekly	Annually	After faults	After damage
Drive motor	<ul style="list-style-type: none"> <li>▶ Re-tighten screws</li> <li>▶ Check cleanliness</li> </ul>	X				X	X
Drill bit thread	▶ Grease	X					
	<ul style="list-style-type: none"> <li>▶ Check for damage</li> <li>▶ Check cleanliness</li> </ul>	X	X			X	X
Cables, switches, plug-in devices	<ul style="list-style-type: none"> <li>▶ Check for damage</li> <li>▶ Check cleanliness</li> </ul>	X	X			X	X
Water economy	▶ Check the water line for cleanliness and leak-tightness	X				X	X
	▶ If there is a risk of frost blow out water		X				
Service	▶ To be performed by TYROLIT Hydrostress AG or an authorised workshop	According to service indicator (LED's 1, 2 flash in green) (Service interval 200 / 400 / 600 ... hours)					

### 7.1 Take waste for recycling



TYROLIT Hydrostress tools are manufactured using a high proportion of recyclable materials. A prerequisite for recycling is proper material separation. In many countries, TYROLIT is already prepared for taking back your used equipment for recycling. Contact TYROLIT customer service or your sales adviser.

## 8. EC Declaration of Conformity

Description	Electric drill motor
Type designation	DME36MW★★★/DME36UW★★★
Year of construction	2013

We declare under our sole responsibility that this product complies with the following directives and standards:

### Applied directions

2006/42/EC	17.05.2006
2004/108EC	15.12.2004
2002/96/EC	27.01.2003

### Applied standards

EN ISO 12100:2010  
EN 12348/A1 : 2009  
EN 61029-1 : 2009 / Exception: On-off switch  
EN 61029-2-6 : 2010  
EN 61000-3-2/A2:2009  
EN 61000-3-3:2008

### TYROLIT Hydrostress AG

Witzbergstrasse 18  
CH-8330 Pfäffikon  
Switzerland

Pfäffikon, 11.12.2013



Pascal Schmid  
Development Manager



